Use the given pair of functions to find the following values if they exist. If the value is not defined, write "undefined".

Exercise 1 $f(x) = x^2$, $g(x) = 2x + 1$

- $(g \circ f)(0) = \boxed{1}$
- $(f \circ g)(-1) = \boxed{1}$
- $(f \circ f)(2) = \boxed{16}$
- $(g \circ f)(-3) = \boxed{19}$
- $(f \circ g)\left(\frac{1}{2}\right) = \boxed{4}$
- $(f \circ f)(-2) = \boxed{16}$

Exercise 2 $f(x) = |x - 1|$, $g(x) = x^2 - 5$

- $(g \circ f)(0) = \boxed{-4}$
- $(f \circ g)(-1) = \boxed{5}$
- $(f \circ f)(2) = \boxed{0}$
- $(g \circ f)(-3) = \boxed{11}$
- $(f \circ g)\left(\frac{1}{2}\right) = \boxed{\frac{23}{4}}$
- $(f \circ f)(-2) = \boxed{2}$

Exercise 3 $f(x) = \sqrt{3 - x}$, $g(x) = x^2 + 1$

- $(g \circ f)(0) = \boxed{4}$
- $(f \circ g)(-1) = \boxed{1}$
- $(f \circ f)(2) = \boxed{\sqrt{2}}$
- $(g \circ f)(-3) = \boxed{7}$

- $(f \circ g)\left(\frac{1}{2}\right) = \boxed{\frac{\sqrt{7}}{2}}$
- $(f \circ f)(-2) = \boxed{\sqrt{3-\sqrt{5}}}$

Exercise 4 $f(x) = \sqrt[3]{x+1}$, $g(x) = 4x^2 - x$

- $(g \circ f)(0) = \boxed{3}$
- $(f \circ g)(-1) = \boxed{\sqrt[3]{6}}$
- $(f \circ f)(2) = \boxed{\sqrt[3]{\sqrt[3]{3}+1}}$
- $(g \circ f)(-3) = \boxed{4\sqrt[3]{4} + \sqrt[3]{2}}$
- $(f \circ g)\left(\frac{1}{2}\right) = \boxed{\frac{\sqrt[3]{12}}{2}}$
- $(f \circ f)(-2) = \boxed{0}$

Exercise 5 $f(x) = \dfrac{3}{1-x}$, $g(x) = \dfrac{4x}{x^2+1}$

- $(g \circ f)(0) = \boxed{\frac{6}{5}}$
- $(f \circ g)(-1) = \boxed{1}$
- $(f \circ f)(2) = \boxed{\frac{3}{4}}$
- $(g \circ f)(-3) = \boxed{\frac{48}{25}}$
- $(f \circ g)\left(\frac{1}{2}\right) = \boxed{-5}$
- $(f \circ f)(-2) = \boxed{undefined}$
